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**Impact Of Heavy Metals On Hematological Profile In Fish From The Bhaghar Lake, India: A Preliminary Study**

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Hematological parameters have been recognized as valuable tools for monitoring fish health induced by any changes in the quality of waters and other related environmental factors. In present study, assessment of heavy metals concentration in fresh water Bhaghar Lake (located at Tahsil-Ramnagar, District- Barabanki, State-Uttar Pradesh, India) concerning their effects on hematological parameters in fish Channa punctatus from it were carried out. The water and sediments of the lake were analyzed for zinc (Zn), copper (Cu), and lead (Pb) concentrations. At the same time, blood parameters of the exposed fish were also examined for any hematological modifications. The results revealed that concentrations of the metals differs significantly ($p<0.05$) between the lake water and sediments. The concentration (mg/l) of the metals were in the order of Cu>Zn, whereas Pb was not detected in any sample. Blood parameters such as blood cell count (red and white blood cells), hemoglobin, hematocrit, mean cell hemoglobin concentration, mean cell volume, and mean cell hemoglobin were noted to be altered from their normal value in fish ($p< 0.05$). In conclusion this study indicated that Cu and Zn polluted the lake water and posed their harmful impact on fish health. Further this is the first report on distribution of heavy metals and proximate composition of important edible fish from this fresh water lake in India.

**Key words:** Bhaghar Lake, Hematological parameters, Channa punctatus heavy metals